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ABSTRACT

The ADVISOR (revised form) was used to obtain student ratings of instructors and courses for classes offered in spring 1971. The classes were divided into nine groups according to the beginning time of class meeting to assess possible differential ratings by time. The first two subscales of the ADVISOR, Overall Evaluation of Course and Instructor, yielded significant overall F-ratios from a one-way analysis of variance, but none of the individual comparisons among the nine class meeting times were significant. The other two subscales did not yield significant overall F-ratios. By utilizing the above results and to assess the degree of relationship between ratings and time of class meeting, it was concluded that the time of day at which classes meet does not appreciably affect instructor or course ratings. (Author)

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Research Report

TITLE

Does the Time of Course Meeting Affect Course Ratings by Students

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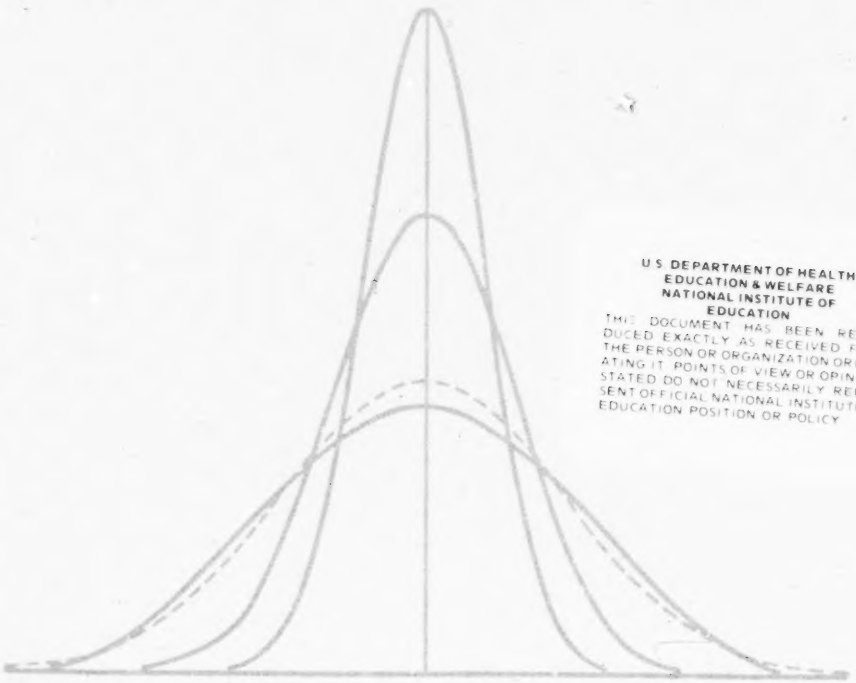

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Abstract

The ADVISOR (revised form) was used to obtain student ratings of instructors and courses for classes offered in spring 1971. The classes were divided according to nine groups according to the beginning time of class meeting in order to assess possible differential ratings by time.

The first two subscales of the ADVISOR, Overall Evaluation of Course and Instructor, yielded significant overall F-ratios from a one-way analysis of variance, but none of the individual comparisons among the nine class meeting times were significant. The other two subscales did not yield significant overall F-ratios. By utilizing the above results and ω^2 to assess the degree of relationship between ratings and time of class meeting, it was concluded that the time of day at which classes meet does not appreciably affect instructor or course ratings.

DOES THE TIME OF COURSE MEETING AFFECT COURSE RATINGS BY STUDENTS?

The use of student ratings to evaluate teaching at the college level is an important aspect within a general system of faculty evaluation. Input from student ratings has assumed greater prominence recently because of the desire to utilize the ratings in decisions involving the promotion and pay rate of faculty members. If the relative ranking of a faculty member obtained through an objectively-scored rating scale is important, then it is also important to investigate factors other than actual teaching which may affect faculty rankings. One such factor is the time of class meeting.

A survey of the relevant literature was undertaken to determine if time of class meeting had been related to student ratings. No studies were found on this topic. Thus, the purpose of this study was to examine the extent to which time of class meeting would affect the course ratings by students. A priori, lower ratings might be expected for early morning classes, say eight o'clock, since these classes may be considered as unusually early by the students and faculty. Also, the classes meeting at the end of the day might expect to receive low ratings because of the exhaustion on the part of the students or instructor.

Method

Instrument

The student rating form used in this study was the ADVISOR (revised form) which was developed in the fall of 1968 by students with the cooperation of the Measurement and Research Division, Office of Instructional Resources, University of Illinois. The ADVISOR consists of 34 objectively-scored items which are grouped into four subscores, plus open-ended questions on the reverse side. The four subscores are (1) Overall Evaluation of Course, (2) Instructor,

(3) Quiz or Discussion, and (4) Laboratory or Language Laboratory. The number of items in each subscale are shown in Table 1. Feldman (1970) presented details of the development of the ADVISOR. For the complete form see Appendix A.

Table 1

Subscores of the ADVISOR

Subscore	No. of Items
1. Overall Evaluation of Course	18
2. Instructor	6
3. Quiz or Discussion	6
4. Laboratory or Language Lab.	4

The first and second subscores apply to all courses. The remaining two subscores apply only to applicable course types. There are both positive and negative items in the ADVISOR. Each item has the Likert format with the following alternatives: Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). These alternatives are coded 4, 3, 2, and 1, respectively, for the positive items and the reverse order for the negative items. Each item has a pre-determined best answer which receives the highest rating. The last two items of the first subscale were excluded from the analysis since they were concerned with number of hours of homework and types of examinations given to the class.

Data Source

The subjects used in this study were students who were enrolled in courses offered in the spring of 1971, at the University of Illinois, Champaign-Urbana campus, and whose instructor chose to use the ADVISOR form.

Only section means (individual classes) were used in the analyses, and the number of sections is presented for each analysis performed.

Procedure

The data described above was divided into nine sets, each set corresponding to the beginning time of a class from 8:00 a.m. through 4:00 p.m. Classes beginning after 4:00 p.m. were excluded. No differentiation was made between classes with differing time lengths, that is, a class which met for two hours, say 8:00 a.m. to 10:00 a.m., was classified in the same set as an hour class which began at 8:00 a.m.

The unit of analysis chosen was the section (individual class) mean. One-way analyses of variance were applied to the section means of each of the four subscores utilizing time of class meeting as the independent variable.

The null hypothesis was that there was no significant difference among the ratings using time of class meeting as the basis for subject groupings. The probability level adopted for significance testing was .05.

For any analysis that resulted in a significant F-ratio, Scheffé's Method (Ferguson, 1966, p.296) of multiple comparison was chosen to test for individual differences. In addition, the overall strength of association between the time of class meeting and the subscore ratings was estimated by using the formula provided by Hays (1965, p.382):

$$\text{est } \omega^2 = \frac{\text{SS between} - (J - 1)\ \text{MS within}}{\text{SS total} + \text{MS within}}$$

$$J = \#\ \text{of groups}$$

Results

Overall Evaluation of Course (16 Items)

The means and standard deviations of the overall rating for the nine class meeting times are shown in Table 2. The range of means was from 3.17 for 4:00 p.m. classes to 2.91 for 11:00 a.m. classes. It may be important to note, however,

that the mean for 11:00 a.m. was based on 120 sections, while the mean for 4:00 p.m. was based on only 13 sections.

Table 2

Overall Evaluation of Course

Time of Class Meeting	No. of Sections	Mean	Standard Deviation
8:00 a.m.	80	3.02	.27
9:00 a.m.	125	2.98	.34
10:00 a.m.	130	3.04	.30
11:00 a.m.	120	2.91	.33
12:00 p.m.	43	3.02	.27
1:00 p.m.	113	2.98	.42
2:00 p.m.	78	2.98	.50
3:00 p.m.	62	3.06	.35
4:00 p.m.	13	3.17	.37

The results of the one-way analysis of variance, which was significant at the .05 level, are shown in Table 3. The index ω^2 indicated that only about one percent of the variance in ratings was accounted for by the time of class meeting. Considering this result, it was not surprising to find that none of the individual comparisons (Scheffé) were significant.

Table 3

Analysis of Variance

Source	df	SS	MS	F	ω^2
Between	8	2.0185	.2523	1.99*	.0102
Within	755	95.9214	.1270		
Total	763	97.9399			

*$p < .05$

Instructor (6 Items)

The means and standard deviations of the instructor ratings for different times of the day are presented in Table 4. As in the previous analysis, the instructors teaching classes at 4:00 p.m. received the highest rating, while those teaching classes at 11:00 a.m. received the lowest rating.

Table 4

Time of Class Meeting	Sample Size	Mean	Standard Deviation
8:00 a.m.	80	3.06	.34
9:00 a.m.	125	3.01	.49
10:00 a.m.	130	3.09	.52
11:00 a.m.	120	2.93	.51
12.00 p.m.	43	3.10	.45
1:00 p.m.	113	3.06	.55
2:00 p.m.	78	3.07	.58
3:00 p.m.	62	3.17	.44
4:00 p.m.	13	3.31	.38

The F-ratio from the one-way analysis of variance, shown in Table 5, was significant at the .05 level. The hypothesis of no effect of the time of class meeting on the ratings was rejected. No pair of the Scheffé individual comparisons were found to be significant. Only 1.17 percent of the variance in rating was accounted for by the time of class meeting as indicated by ω^2.

Table 5

Analysis of Variance

Source	df	SS	MS	F	ω^2
Between	8	4.2132	.5267	2.13*	.0117
Within	755	187.0215	.2477		
Total	763	191.2347			

$p < .05$

Quiz or Discussion (6 Items)

Means and standard deviations of the Quiz or Discussion subscore ratings for all groups are shown in Table 6. The 12:00 p.m. classes received the highest rating, and the lowest rating was for 8:00 a.m. classes. The F-ratio was not significant (see Table 7). Only 1.15 percent of the variance in ratings was indicated by ω^2 to be attributable to the time of the class meeting.

Table 6

Quiz or Discussion

Time of Class Meeting	Sample Size	Mean	Standard Deviation
8:00 a.m.	65	3.00	.52
9:00 a.m.	99	3.10	.51
10:00 a.m.	97	3.14	.48
11:00 a.m.	104	3.06	.49
12:00 p.m.	38	3.28	.43
1:00 p.m.	92	3.11	.50
2:00 p.m.	68	3.20	.36
3:00 p.m.	49	3.25	.45
4:00 p.m.	11	3.27	.53

Table 7

Analysis of Variance

Source	df	SS	MS	F	ω^2
Between	8	3.5024	.4378	1.91	.0115
Within	614	140.7664	.2293		
Total	622	144.2688			

Laboratory or Language Laboratory (4 Items)

The means and standard deviations of the Laboratory or Language Laboratory are presented in Table 8. The classes meeting at 3:00 p.m. received the lowest rating (2.58), while the 8:00 a.m. classes had the highest rating (3.03). The F-ratio (Table 9) was not significant. Slightly less than one percent of the variance in ratings was accounted for by the time of class meeting as indicated by ω^2.

Table 8

Laboratory or Language Laboratory

Time of Class Meeting	Sample Size	Mean	Standard Deviation
8:00 a.m.	27	3.03	.44
9:00 a.m.	34	2.64	.69
10:00 a.m.	40	2.81	.73
11:00 a.m.	28	2.60	.62
12:00 p.m.	11	2.79	.94
1:00 p.m.	32	2.61	.72
2:00 p.m.	16	2.86	.66
3:00 p.m.	14	2.58	.72
4:00 p.m.	3	2.83	.38

Table 9

Analysis of Variance

Source	df	SS	MS	F	ω^2
Between	8	4.6753	.5844	1.26	.0099
Within	199	92.2863	.4638		
Total	207	96.9616			

Discussion and Conclusion

The one-way analysis of variance F-ratios for the Overall Evaluation of Course and the Instructor subscores were 1.99 and 2.13, respectively. The null hypotheses of no differences of ratings among groups in time effects were rejected at the .05 level of significance. The contention that the students rate classes and instructors differently according to the time of class meeting appeared to be supported by this statistic.

However, these ratios were only slightly higher than the critical F-value. No individual comparisons among class meeting times were found to be significant, including the tests between highest and lowest mean ratings. Furthermore, the strength of association (estimated via ω^2) between the time of class meeting and the ratings was small, i.e., only .010 and .012 for the Overall Evaluation of Course and for the Instructor scales, respectively. Thus, the differences among classes meeting at various times, while statistically significant, has very little practical significance. The statistical significances were probably due to the large sample sizes. This conclusion is further substantiated by the fact that the two subscales with smaller sample sizes showed nearly equivalent strengths of association, but they were not statistically significant.

Since the data used in this study was not random, the observed results are not necessarily generalizable to other comparable situations. To some extent,

the students and the instructors both selected the time or the class meeting according to their preference. This characteristic may affect the ratings. If both teachers and students were randomly assigned to the classes and to the time of class meeting, the results might have been different from those obtained here. However, practically speaking, the time of day at which the class meets does not seem to appreciably affect the ratings.

References

Feldman, S., The ADVISOR. Research Report No. 325. Urbana, Illinois: Measurement and Research Division, Office of Instructional Resources, University of Illinois, 1970. Mimeo.

Hays, W. L., Statistics for Psychologists. New York: Holt, Rinehart and Winston, 1965.

Ferguson, G. A. Statistical Analysis in Psychology and Education, (2nd ed.). New York: McGraw-Hill, 1966.

Appendix A

THE ADVISOR

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Side Two

THE ADVISOR

University of Illinois

Fill in information in boxes 1 - 13 first

1. COURSE CODE
2. COURSE NAME
3. COURSE NUMBER
4. YOUR COLLEGE
5. TODAYS DATE (MO. YR.)
6. SEX
7. LECTURE BEGINS AT
8. THIS COURSE IS WITHIN YOUR
9. ARE YOU TAKING THIS COURSE FOR (PASS FAIL)
10. ARE YOU
11. EXPECTED GRADE IN THIS COURSE
12. GRADE THIS COURSE IN COMPARISON TO YOUR OTHER COURSES THIS SEMESTER
13. GRADE THIS INSTRUCTOR IN COMPARISON TO YOUR OTHER INSTRUCTORS THIS SEMESTER

OMIT ITEMS WHICH DO NOT APPLY TO THIS COURSE

OVERALL EVALUATION OF COURSE (These items relate only to the Lecture section.)

1	SA	A	D	SD	I learned a great deal in this course.
2	SA	A	D	SD	I enjoyed the course.
3	SA	A	D	SD	Too much irrelevant material was presented.
4	SA	A	D	SD	Examinations mainly tested trivia.
5	SA	A	D	SD	Grading was based on clear standards.
6	SA	A	D	SD	The amount of work required for this course was excessive.
7	SA	A	D	SD	Content of examinations was unfair.
8	SA	A	D	SD	This course has foggy objectives.
9	SA	A	D	SD	Out-of-class work (i.e. Homework) was relevant and helpful.
10	SA	A	D	SD	Grading in this course has been unfair.
11	SA	A	D	SD	The course material seemed worthwhile.
12	SA	A	D	SD	All that is required for this course is memorization.
13	SA	A	D	SD	Content of the course was good.
14	SA	A	D	SD	This course was a waste of time.
15	SA	A	D	SD	Note taking in the lecture was difficult.
16	SA	A	D	SD	This course could be considerably improved.
17	A	B	C	D	Considering all homework (i.e. papers, projects, reading), how many hours per week did you spend studying? (A. 0-3, B. 4-6, C. 7-9, D. 10 or more)
18	A	B	C		What types of exams were given? (A. Objective or mathematical problem solving only, B. Essay only, C. Both A. and B.)

SAMPLE MARKS:

USE PENCIL ONLY

RESPONSE CODE:

MARK SA IF YOU STRONGLY AGREE WITH THE ITEM

MARK A IF YOU AGREE MODERATELY WITH THE ITEM

MARK D IF YOU DISAGREE MODERATELY WITH THE ITEM

MARK SD IF YOU STRONGLY DISAGREE WITH THE ITEM

INSTRUCTOR (These items relate only to the main instructor.)

Write your main instructor's name _____

19	SA	A	D	SD	The presentations by the instructor(s) were excellent.
20	SA	A	D	SD	The instructor seems to dislike teaching this course.
21	SA	A	D	SD	The instructor was interesting.
22	SA	A	D	SD	The personality of the instructor was a problem.
23	SA	A	D	SD	I would like to take another course taught by this instructor.
24	SA	A	D	SD	In general, I rank this instructor higher than others I have had.

QUIZ OR DISCUSSION (These items relate only to the Quiz or Discussion section.)

Write your Quiz or Discussion instructor's name (T.A.)

25	SA	A	D	SD	This class helped to clarify texts and lectures.
26	SA	A	D	SD	There was ample opportunity to ask questions.
27	SA	A	D	SD	The T.A. did not cover enough of the subject matter introduced in lectures.
28	SA	A	D	SD	This T.A. is an effective instructor.
29	SA	A	D	SD	Questions were answered clearly and appropriately.
30	SA	A	D	SD	This class was valuable to the understanding of the course.

LABORATORY OR LANGUAGE LAB (These items relate only to the Laboratory or Language Lab.)

Write your Laboratory instructor's name _____

31	SA	A	D	SD	The lab assistant was very helpful.
32	SA	A	D	SD	There were too many problems with the lab equipment.
33	SA	A	D	SD	Too much time was wasted in the lab.
34	SA	A	D	SD	Lab work was well organized.

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THE ADVISOR

Official Evaluation Form of Champaign-Urbana Campus University of Illinois

Teacher-Course Evaluation Guide

Side One

Please use this side of the form for your personal comments on teacher effectiveness and general course value--then turn it over and answer the objective questions on the other side, using pencil only. Remember--these questionnaires will be collected by a student in your class and mailed by him to the Advisor staff. Your instructor will not see your completed evaluation.

COURSE CONTENT
Please give your comments on the course content, subject matter and any particular relevance this course has had to your area of study.

INSTRUCTORS Write the name of your Principle instructor _____ T.A. _____
What are your general comments about the instructor in this course?

PAPERS AND HOMEWORK
Comment on the value of books, homework, and papers (if any) in this course.

EXAMS
Comment on the exams (quizzes, practicals) as to difficulty, fairness, etc.

GENERAL
1. What improvements in this course would you suggest?

2. Please give your thoughtful evaluation of this course with comments. Are you satisfied with what you got out of this course? Do you consider it a valuable educational experience? Simply a means of passing a requirement? Or a disappointment? Please comment.

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